DOCUMENT RESUME

ED 122 331 CS 501 362

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TITLE Television Advertising and Children's Observational Modeling.
PUB DATE 76
NOTE 34p.; Paper presented at the Annual meeting of the International Communication Association (Portland, Oregon, April 14-17, 1976); Part of text may not reproduce clearly due to marginal quality of original document

EDRS PRICE MF-$0.83 HC-$2.06 Plus Postage.
DESCRIPTORS Behavioral Science Research; Children; Commercial Television; Elementary Education; *Learning Theories; Preschool Education; *Publicize; *Role Models; *Social Behavior; *Television Commercials; Television Research

ABSTRACT

This paper assesses advertising effects on children and adolescents from a social learning theory perspective, emphasizing imitative performance of vicariously reinforced consumption stimuli. The basic elements of social psychologist Albert Bandura's modeling theory are outlined. Then specific derivations from the theory are applied to the problem of television advertising effects. These derivations from Bandura's model include techniques for the analysis of advertising content, investigation of the effects of advertising on attention processes, and surveying preadolescent behavior for changes resulting from television commercials. For each application, new research evidence is presented and interpreted in terms of social learning principles. (Author/FB)

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TELEVISION ADVERTISING AND CHILDREN'S OBSERVATIONAL MODELING

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This paper assesses advertising effects on children and adolescents from a social learning theory perspective, emphasizing imitative performance of vicariously reinforced consumption stimuli. In the first section, the basic elements of Albert Bandura's modeling theory are outlined (Bandura, 1962, 1965a, 1969, 1971a, 1971b, 1973; Bandura and Walters, 1963; Bandura, Ross, and Ross, 1963a, 1963b). Then, specific derivations from the theory are applied to the problem of television advertising effects. For each application, new research evidence is presented and interpreted in terms of social learning principles.

SOCIAL LEARNING THEORY

Gewirtz (1969) defines social learning as a category of learning involving stimuli provided by people. There are two basic social learning processes that influence behavior: direct instrumental training, where a teacher explicitly attempts to shape responses via differential reinforcement, and imitation, where an observer matches responses to discriminative cues provided by responses of a model. The latter process occurs without direct tuition and comprises the vast majority of a child's socialization.

Although traditional learning theories portray behavior as a function of directly experienced reinforcements, Bandura contends that "virtually all learning phenomena resulting from direct experiences can occur on a vicarious basis through observation of other people's behavior and its consequences for them." This enables man to acquire behavior by example without tedious trial and error practice; similarly, behavioral inhibitions can be induced by observing punishment of others for their actions. There is an important cognitive component in this approach, as people symbolically represent and process external influences for later guidance in performance.

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In Bandura's view, "most of the behaviors that people display are learned, either deliberately or inadvertently, through the influence of example." The reasons for this are that dangerous mistakes can be avoided by observing competent models who demonstrate proper modes of response, that complex behaviors such as language can only be learned through example, and that novel response patterns can be acquired more efficiently through observational means.

Early social learning and operant conditioning theories of modeling emphasized the requirement of overt performance of a response matching the modeled stimulus cue, followed by the positive reinforcement of the imitative behavior (Miller and Dollard, 1941; Skinner, 1953). Bandura's approach differs from contemporary analyses in the treatment of response integration, cognitive control, and reinforcement influences. He proposes four subprocesses that govern modeling. A distinction is drawn between acquisition (learning) and actual performance of the behavior. An observed response becomes acquired when stimuli merely elicit mental representations of the behavior; overt performance is primarily determined by reinforcements experienced by the model and the observer.

The initial process is attention, where the observer is exposed to the modeling stimuli. Acquisition of matching behavior at the sensory registration level occurs when the observer attends to, recognizes, and differentiates the distinctive features of the model's behavior. Attention is selectively determined by several sets of factors, including opportunity for encounter with direct or mediated models, the relevance, competence, distinctiveness, power, and attractiveness of these models, and the observer's sensory capacities, arousal level, motivations, and reinforcement

history. Bandura feels that televised models are so intrinsically interesting that they are highly effective in attracting attention.

Retentional processes are crucial because delayed imitation outside of the model's presence requires symbolic representation in memory. This mental representation process involves coding of both images and verbal symbols of observed events.

Motoric reproduction processes are the third component of modeling. The observer must possess the requisite skills for physically executing the behavioral pattern.

Finally, reinforcement and motivational processes determine whether the learned behavior will be activated into overt expression. Positive incentives facilitate translation from mental acquisition to behavioral performance of matching actions. In particular, observed reinforcement contingencies provide the crucial instigational cues.

Bandura notes that the anticipation of reinforcement also influences the attentional and retentional processes; observers are more attentive to actions of effective models, and they are more likely to code utilitarian modeled responses. However, such incentives are facilitative rather than necessary conditions; indeed, attention may be attracted by physical means: "One does not have to be reinforced, for example, to hear compelling sounds or to look at prominent visual displays." In one study, Bandura, Grusec and Menlove (1966) found the same level of imitative acquisition from television stimuli regardless of advance notification that correct modeling would be rewarded.

Bandura identifies several types of modeling functions. Observational learning is the transmission of information about ways of organizing component responses into new patterns of behavior. Observers acquire novel

response patterns by watching the performances of others via physical demonstrations, pictoral representation, or verbal description. While adults rely on verbal modeling as the preferred mode of response guidance, children who have not developed adequate language skills are more dependent on visual depictions. The varied symbolic modeling portrayals on television constitute an extremely important influence:

> The basic modeling process is the same regardless of whether the desired behavior is conveyed through words, pictures, or live actions. Different forms of modeling, however, are not always equally effective. It is frequently difficult to convey through words the same amount of information contained in pictorial or live demonstrations. Some forms of modeling may also be more powerful than others in commanding attention. Children, or adults for that matter, rarely have to be compelled to watch television, whereas verbal characterizations of the same activities would fail to hold their attention for long. One might also expect observers who lack conceptual skills to benefit less from verbal modeling than from behavioral demonstrations.

The second function involves strengthening or weakening of inhibitions that govern the expression of previously learned responses. The observation of reinforcement to a model helps determine how behavioral restraints are modified; vicariously punished responses tend to inhibit expressions of similar behavior, while normally prohibited responses that are rewarded (or merely ignored or not noticed) reduce inhibitory constraints.

Response facilitation is the third major function. This modeling enhancement process occurs when the model performs a socially sanctioned behavior which serves as an external reminder eliciting performance of existing responses in the same general class. Facilitation is distinguished from observational learning in that new behaviors are not acquired, and from inhibition/disinhibition in that these types of behavior are not normally subject to internal or external restraint.

Bandura briefly mentions a fourth function, stimulus enhancement, where the observer's attention is directed to the objects employed by the

model. Consequently, the observer may be more likely to use these objects, although not necessarily in a directly imitative fashion.

In his theory, Bandura posits that human functioning is responsive to the regulatory control of stimulus and reinforcement cognitive processes. Stimulus control is generated by the characteristics of the environmental cues, such as intensity, relevance, explicitness, and model attributes. Stimuli acquire response-directive properties when they are associated with differential response consequences. Such information is conveyed by verbal communication, actions of models, distinctive places, people and things, and pictoral materials. Bandura states, "Of the numerous cues that influence how people will behave at any given moment, none is more ubiquitous or effective than the actions of others," and ". . . behavior is prompted and channelled by the power of example."

Modeling stimuli are not equally influential in evoking the exemplified behavior. The attributes of the social model combine with the model's reinforcement contingencies to determine impact. Models who are perceived to have high competence, expertise, power, celebrity standing or socioeconomic status are overtly imitated to a considerably greater degree, compared to models lacking these qualities. Impact of properties such as age, sex, and ethnic status is more likely to vary according to the observer's characteristics, since perceived similarity to the model is an influential factor. The potency of these dimensions is explainable in terms of the predictably reinforcing outcomes associated with imitation of respected or successful models; copying actions of models who have attained status is more likely to be rewarded. Indeed, status can be conferred on models by their response consequences; a model assumes greater valuation and emulative qualities when positively rather than negatively reinforced. In

addition, source generalization processes tend to extend a model's prestige to unrelated domains of behavior and to other models similar to the respected one. The role of similarity is partly due to the expectation that people who possess similar characteristics share many common experiences and outcomes. Berkowitz (1962) observes that the degree of similarity between the circumstances portrayed and the observer's own situation facilitates effects in the same manner.

Cognitive control is a key intervening process which helps determine what is observed and performed. Since behavior is primarily regulated by anticipated consequences of prospective overt actions that may not be relevant until appropriate circumstances arise, the cognitive function serves to preserve the imagery and symbolic representations. Thought control is often exercised before performance; alternative courses of action are tested symbolically, with action based on expected consequences.

Reinforcement control is centrally important, of course. Behavior is extensively governed by its positive and negative consequences, whether directly experienced, observed, or self-created. Actions are shaped by feedback from extrinsic rewards and punishments, more typically those of a secondary social nature (approval, attention, affection) rather than tangible primary incentives. Intrinsic self-reinforcement also serves as a continous guide to behavior, as people seek to achieve personal satisfaction by meeting internally evaluated standards.

Observed reinforcement contingencies affect behavior in the same way as directly experienced reinforcers. Bandura argues that vicarious reinforcement is more effective in acquisitional learning, while direct reinforcement is more influential in motivating performance of behavior. A

particularly interesting problem is the interactive effect of direct and vicarious reinforcers. Observed consequences provide reference standards for determining whether attained outcomes are judged as positive or negative, as in the phenomena of relative deprivation: "Through social comparison processes, observation of other people's response outcomes can drastically alter the effectiveness of direct reinforcements."

Bandura explains vicarious reinforcement in terms of several mechanisms. One is the informative function, where selective rewarding or punishing of the observed performer's responses conveys knowledge of the probability that certain types of actions are appropriate or successful in various environmental settings. These observed consequences may also provide an incentive motivation function as the observer develops expectations that similar reinforcement can be personally obtained for analogous performances. The specific disinhibitory effect derives from observation of a model engaging in disapproved behavior without experiencing adverse outcomes; inhibitions are released by the perception that such behavior is acceptable in certain situations, and that there is little risk of reprimand or loss of self-respect.

APPLICATIONS

Most of the mass communication applications of vicarious social learning theory have concerned the impact of television violence portrayals on anti-social behavior (see reviews by Bandura, 1973; Leibert, Davidson and Neale, 1973; Atkin, Murray and Nayman, 1971, 1972; Goranson, 1970; Baker and Ball, 1969; Maccoby, 1964; and Berkowitz, 1962). More recently, investigators have studied the role of vicarious modeling processes in the

learning of pro-social behavior such as altruism (Bryan and London, 1970; Bryan and Schwartz, 1971; Krebs, 1970), kindness (Rosenhan, 1969; Rosenhan and White, 1967), courage (Bandura, Grusec, and Menlove, 1967; Bandura and Menlove, 1968), generosity (Bryan and Walbek, 1970), affection (Fryrear and Thelen, 1969), self-control (Bandura and Mischel, 1965; Stein and Bryan, 1972; Stein and Friedrich, 1972), reflective problem-solving tempo (Debus, 1970; Ridberg, Parke and Hetherington, 1971), initiation of peer contacts (O'Connor, 1969), and inhibition of deviant actions (Slaby and Parke, 1971; Walters, Leat, and Mezei, 1963; Wolf, 1972). Finally, vicarious learning principles have been applied in the development of instructional television programs such as Sesame Street and Electric Company (Lesser, 1974; Sproull, 1973; Cook, Appleton, Conner, Shaffer, Tampkin, and Weber, 1975; Ball and Bogatz, 1970, 1973; Bogatz and Ball, 1971).

The study most relevant to commercial advertising impact is a social learning analysis of public service announcements by Liebert, Sprafkin and Poulos (1975). They obtained successful results by carefully designing cooperation PSA messages to attract attention, produce comprehension, and engender acceptance as a behavioral guide. Based on their experience, the authors recommend these rules for message construction: defining target audience clearly, highlighting central message while varying peripheral content across a series of spots, using familiar and relevant experiences to optimize immediate recognition and understanding, utilizing action to attract attention and interest, employing verbal labeling cues to emphasize action sequences, and emphasizing strong positive consequences of the behavior.

The remainder of this paper will present recent empirical evidence pertaining to vicarious modeling, drawn from data collected in a three-year

research program by Atkin (1975). In each section, research findings will be linked to relevant components of social learning theory. First, the stimulus characteristics of children's commercials are examined in terms of effectiveness potential, based on social learning ideas. Then, evidence of actual advertising impact is presented in this theoretical context. (The findings will be summarized briefly; full technical reports are available from the author.)

DIMENSIONS OF ADVERTISING STIMULI

The nature of the portrayal of product consumption and consequences in commercial messages has significant implications for child modeling of advertising stimuli. A number of content dimensions relating to social learning theory were described in an analysis of all 470 commercials aired on the three television networks on two comparable Saturday mornings in 1972 and 1973. In general, these ads portrayed one or more models in the act of consuming a food or toy product and enjoying positive reinforcement as a consequence of this response. The presentation of findings is organized according to the stimulus control and reinforcement control functions, which affect attentional, retentional, and motivational processes.

Stimulus control. The structural elements of advertising presentations contribute to the viewer's attention and retention: ads are placed within and between popular entertainment programs where children have a high opportunity to encounter the messages, and the frequent repetition of specific commercials increases the likelihood of attending and retaining the material. The intermittent repetition is particularly important because younger viewers have a limited capacity for storing an infrequently presented message until the appropriate time for action; since most ads

are oriented toward response facilitation effects, repeating the basic message within and across Saturday mornings serves as a key reminder to display previously learned consumption behaviors. The findings showed an average of 20 ads per hour in these two years, and an ad was presented an average of 1.4 times per morning.

The repetition factor is also apparent within commercials. Almost every commercial mentioned the brand name more than once, with almost one-fourth of the ads featuring five or more repetitions. On the average, the name of the brand was verbally mentioned 3.7 times per 30-second message. Retention can also be stimulated by the use of catchy slogans and jingles. More than two-fifths of the ads employed these devices, with musical jingles predominating over verbalized slogans by a five-to-one margin.

Several other attention-getting aspects of advertising stimuli were documented: a humorous tone of presentation was used in almost three-fifths of the ads, and four-fifths of the commercials featured special effects techniques, typically close-ups of the product. Certainly the various model characteristics and reinforcement portrayals described below also induce greater attention.

Almost all ads depicted human characters, and the roles satisfied both the competence/authority and similarity strategies for eliciting that modeling. Nine-tenths portrayed child models, which large segments of the child audience are likely to perceive as similar to themselves. Although few commercials presented adults alone, more than one-fourth had a mixture of children and adults; most adults occupied a parental role. Furthermore, celebrity models were used in one of every twenty ads. Aside from age of

characters, a racial analysis showed that about one-fifth of the commercials presented non-white minority persons, almost always in combination with whites.

Another important facet of the stimulus is the explicitness of the behavioral portrayal. Almost nine-tenths of the ads visually illustrated the product in use at some point, typically showing a child playing with a toy or eating a food product. About three-fourths of all commercials relied solely on live-action portrayals, while the rest were split evenly between animated-only presentations and use of the two techniques in combination. Thus, the child observer can clearly view the sequence of actions involved in consuming the object promoted in most ads. This feature should particularly enhance observational learning of specific new responses not in the child's repetoire.

One noteworthy content stimulus that did not occur in the commercials was the explicit suggestion that the child ask parents to purchase the product. Since children must express specific requests as a means of obtaining most of the products that they desire, a sound commercial strategy would be to present modeling stimuli either graphically depicting such behavior or verbally recommending that the observer carry out the request act. Just 2% of the ads in 1972 and none of the 1973 ads featured this approach, larely due to code restrictions.

Reinforcement control. The content analysis also attempted to assess the types of rewards attained by models, although this requires a subjective evaluation. Only a handful of commercials did not portray explicit enjoyment or benefit experienced from consuming the product. Almost three-fifths of the ads were judged to show high satisfaction, with verbal and/or

nonverbal display of strong liking for the product; the remainder were rated in the moderate satisfaction category. Higher levels of satisfaction were depicted much more often in food ads than in toys ads. Among the rewards associated with product consumption, the feeling of fun was emphasized in two-thirds of the advertisements, particularly ads for foods. Two other categories were frequently found in toy ads: feelings of power and feelings of being grown-up. Finally, the commercials were rated in terms of peer appeals linked to product consumption. Increased status with peers was demonstrated in very few commercials, but more than half of the ads were classified as containing affiliative appeals since the model(s) and product were shown in a social setting with other children present.

The previously cited data that most adults appearing in ads occupied a parental role with respect to child models has important reinforcement implications. Such authority figures either directly approve of the child model's consumption or implicitly endorse it with their mere presence; this might indicate to the viewer that he will similarly be rewarded (or at least not punished) for consuming the product.

The presentation of such reinforcements in commercials contributes to the cognitive and behavioral impact of the message. Attention and retention are heightened by the enticing display of personal and social satisfaction derived from playing with a particular toy or eating a certain cereal or candy. Most significantly, these elements of the advertisement serve as a motivating incentive to perform the consumtion behavior and to implement any necessary pre-consumption actions such as requesting purchase of the product.

EFFECTS OF ADVERTISING ON ATTENTIONAL PROCESSES

The initial requisite condition for successful behavioral modeling is securing attention of the target audience. Data from both experimental and survey studies show that commercials attract an attentive reaction from children.

In the experimental research, 500 preschool and grade school students were unobtrusively monitored as they watched a videotaped cartoon in which seven commercials were embedded. Groups of four children were seated in front of a television while a hidden camera recorded their eye contact with the televised presentation. Averaging across the seven 30-second ads, the mean amount of eye contact was 25 seconds. Older children (8-10 years old) paid slightly closer attention than younger children (3-7 years old), by about a 2-second margin.

One of the manipulations in this experiment was the structural formatting of the commercials into a single cluster of seven ads versus conventionally dispersed sets of three or fewer ads. Attention level was actually slightly higher in the clustered condition, regardless of age. Moreover, there was no significant tendency for relative deterioration of attention from earlier to later ads within the cluster. These findings underline the attention-drawing power of television ads.

It must be noted that the generalizability of these findings is somewhat limited by the artificial nature of the laboratory setting. Viewers did not have the range of alternative activities to pursue if the commercials proved uninteresting; the constraints in this situation may have forced children to attend more closely than in the home environment.

These experimental data are complemented by survey evidence from a sample of 775 children in the fourth through seventh grades. A questionnaire

displayed pictures and/or verbal summary descriptions of 26 specific commercials and PSA's representing a wide variety of products and ideas aimed at both child and adult audiences. Respondents were asked to report level of exposure to each along a four-step scale, with the standard question: "When this commercial comes on TV, how much do you watch it?" Averaging across all messages, 17% selected the "always" category, 24% indicated "usually," 40% said "sometimes," and 19% marked "never." The fourth-fifth graders attended slightly more closely than the sixth-seventh graders. By type of message, attention was reported to be highest for PSA's (53% in top two attention categories), followed by candy ads (50%), hygiene ads (41%), cereal ads (39%), shoe ads (38%), toy ads (33%), and medicine ads (25%). Of course, the particular examples of ads selected for each type of product may not be representative, but the overall findings are likely to be typical.

OBSERVATIONAL LEARNING EFFECTS

Observational learning is defined as the acquisition (and performance) of novel forms of behavior. In the case of television advertising, the criterion of "new" response can be met with any of several conditions including: a type of consumption with which the child is not familiar because of limited opportunity for direct observation or experience (i.e. using hygiene products such as deodorants and acne cream, ingesting proprietary medicines such as sleeping pills and laxatives, wearing undergarments, or drinking alcohol), or a distinctive new version of familiar type of consumption (i.e., playing with unique style of toy, or eating an innovative brand of dessert). Several sets of data are relevant to observational learning, including evidence of hygiene socialization and analyses of the

impact of model attributes and message repetition in developing interest in new toy products.

Hygiene socialization. In the survey described in the previous section, respondents described their attention to commercials for deodorants, mouthwashes, and acne creams, and their orientations toward these products. Among the criterion variables studied, three are most likely to be affected by modeled stimuli portraying numerous actors worrying about hygiene and using advertised products to combat the problem: perceived amount of usage of the products by other people, personal concern about the problems, and usage of the products.

The predictor variable was a multiplicative exposure index composed of degree of attention to five hygiene ads and amount of television viewing during prime-time evening hours when these ads are aired. Three items measured the children's perceptions of the proportion of adults (or teenagers, in the case of skin cream) who use each of the hygiene products. An index based on these items correlated +.30 with the exposure index; when grade, sex, social status, scholastic performance and interpersonal discussion about hygiene were controlled, the partial correlation remained sizable at +.26. Thus, heavy hygiene commercial viewers are much more likely to perceive that people frequently use deodorants, mouthwash, and skin cream.

The motivational element was gauged by the extent to which the child worried about acne problems and offending others with body odor. This index correlated +.20 with exposure, and the fifth-order partial correlation dropped to +.14. There was correlation of +.29 between exposure and the frequency of actually using the mouthwash and skin cream products; the partial correlation was +.23. These findings indicate a moderate association

between viewing hygiene ads and using these products, and a somewhat weaker relationship for concern about hygiene problems.

The effect of advertising was experimentally tested in the case of acne cream. In a sample of 200 fourth and fifth graders, half viewed a video tape program containing a currently aired acne cream commercial while the other half saw an irrelevant commercial in that slot. The message showed pre-adolescents applying the preparation to their faces. On a post-viewing questionnaire, the exposed group expressed significantly greater concern about blemishes, were significantly more likely to believe that skin cream rather than regular soap was the appropriate solution to acne problems, and were significantly more likely to say that they would buy the product for personal use, compared to the control group. A contingent analysis showed the importance of the novelty factor in message impact: among the 83 who had previously seen the product advertised on TV, there was no difference between the experimental and control groups. However, among those who had never viewed such messages at home, the difference was very large, yielding highly significant interactions between the treatment variable and the previous exposure variable.

Point-it-out. One unique behavior that has been emphasized in a well-known anti-pollution PSA is to point-it-out when polluting or littering is encountered. A series of models distinctively use their fingers to identify various offenders and perhaps to stimulate them to stop polluting. Since children would be unlikely to perform this response without observing the PSA stimulus, it is a prime example of observational learning. In survey questionnaires distributed to 775 older children, one question asked how often they reminded litterers to stop their littering; amount of exposure to this and another anti-littering message was also measured. More

than two-thirds of the respondents indicated that they had ever attempted to stop offenders from littering; 25% of the heavier viewers vs. 14% of the lighter viewers reported that they did this frequently. The partial correlation between exposure and reminding others to stop littering was +.19, with demographic factors controlled. It appears that the novel act of harrassing litterers is effectively taught by televised PSA's.

Model characteristics. Among the stimulus control variables studied in the social learning literature, much attention has focused on model attributes such as sex (Hicks, 1975; Bandura, Ross and Ross, 1961; Nicholas, McCarter and Heckel, 1971a, 1971b; Kohlberg, 1969), age (Hicks, 1975; Nicholas, McCarter and Heckel, 1971a; Bandura, 1969; Kohlberg, 1969), and race. The racial identity of the advertising model was examined in one of the experiments of this project.

Previous research yields conflicting results. Neely, Heckel and Leichman (1973) found that young black children imitated a televised white model more than a black model in toy selection. However, Barry and Hansen (1973) reported that young black children were much more likely than whites to express preference for a cereal brand promoted in a TV commercial featuring a black model than an alternative brand advertised without a black model.

In the present experiment, the race of models was manipulated in a specially produced commercial for an unfamiliar toy product. The ad presented a pair of either white actors or black actors playing with and enjoying the toy; all other message elements were held constant. Half of the sample of 500 preschool and elementary school children viewed each condition. There were no major differences in observed reactions while

viewing, in terms of attention, irritation, enjoyment, and verbalizations. In a post-viewing play situation, subjects were offered an opportunity to play with either the advertised toy or an alternative toy. For white subjects, there were no differences in selection between the white-model and black-model treatments; black subjects more often chose the advertised toy in the white-model condition by a clear 14% margin. These findings indicate that black children are somewhat more likely to imitate novel responses of racial dissimilar advertising models.

Message repetition. A commercial for a distinctive new toy pencil sharpener was aired shortly before survey questionnaires were administered to 775 older children. In the ad, a boy model demonstrated the product in use. The questionnaire measured the frequency of home exposure to the message (from 0 to 60 or more times). This viewing variable was correlated +.19 with desire to have the product, but the partial correlation fell to +.10 when demographic factors were controlled. The raw proportion expressing preference rose steadily from 25% among the unexposed to 51% among those seeing forty or more repetitions. Thus, frequent reinstatement of a message promoting a novel plaything contributes somewhat to modeling intentions.

INHIBITORY/DISINHIBITORY EFFECTS

In addition to teaching new responses, commercials may modify inhibitory restraints governing performance of existing behavioral patterns. Although previous television applications of this component of social learning theory have generally dealt with clearly proscribed forms of behavior such as aggression, the advertising derivations pertain to disinhibition of more mildly prohibited behavioral expression involving minor

violations of personal standards or social norms, including: counter-normative types of product consumption (i.e., unconventional definition of appropriate product users or situations for product usage, such as girls playing with electric trains or late-evening snacking with breakfast cereal), and atypical amounts of product consumption (i.e., candy eating beyond normal limits).

Since commercial advertising seldom attempts to restrain behaviors by presenting negative reinforcement of product consumption, inhibitory applications are rare. However, some public service campaigns seek to inhibit the display of generally non-sanctioned forms of behavior such as littering, smoking, drug-taking and car-riding without buckled seat belts. While the goal may not be total prohibition, PSA's often endeavor to restrict the frequency or situational conditions for performing such behaviors.

Candy consumption disinhibition. Since almost all children eat candy products at least occasionally, moderate consumption is hardly a novel or proscribed pattern of behavior. Nevertheless, Saturday morning candy commercials repeatedly portray models happily consuming a variety of these candies, often with the additional reinforcement of tacit adult approval. Extensive exposure to these modeling stimuli may suggest to the child that excessive candy eating is acceptable behavior, even though interpersonal messages and intrapersonal judgment typically serves to restrain candy intake. Thus, commercials may cause a reduced level of personal guilt or fear of social disapproval for excessive consumption of candy; this effect should be reflected in greater amounts of candy bars eaten by the child. Since inhibitions probably do not pertain to any particular brand of candy,

such an effect should be generalized to consumption of all brands regardless of the frequency that each is advertised on television.

In a questionnaire survey of 506 fourth through seventh graders, exposure to candy advertising was indexed by a generalized candy attention item and two measures dealing with specific ads, multiplied by the amount of viewing time on Saturday mornings. Children were also asked to report how often they ate seven brands of candy bars, including three that were frequently advertised and four that were lightly advertised on Saturday mornings. Exposure correlated +.29 with an index of eating heavily promoted brands, and the partial controlling for demographics was +.25. Consumption of lightly advertised brands was associated with exposure to the same degree. A separate item measuring number of candy bars consumed per week yielded a weaker partial correlation of +.10 with the exposure index. Thus, there is fairly strong evidence that exposure and consumption are functionally related (although the direction of causality is not unambiguous) and that advertising effects tend to be generalized to nonadvertised brand consumption, lending support to the disinhibition explanation.

PSA's and inhibitions. Social learning theorists argue that young people learn to avoid dangerous mistakes by observing the negative consequences incurred by models who don't follow recommended practices, such as buckling seat belts or restricting smoking, rather than learning by direct experience with punishing outcomes. Theoretically, an effective modeling message should graphically display a model performing the illicit behavior and then suffering injury, illness, or death. Public service announcements typically tone down the explicitness of the harmful consequences, but generally follow this basic approach. Two cases are seat belt and anti-smoking

campaigns, which display such negative reinforcement as hospitalization, loss of affection, or physical disability.

The questionnaires administered to 775 older children contained items dealing with seat belt buckling behavior and intentions not to smoke, along with level of exposure to corresponding public service messages.

Controlling for contaminating demographic variables, there was a negligible +.06 partial correlation between seat belt PSA exposure and frequency of using seat belts; the partial correlation between exposure to anti-smoking PSA exposure and intention not to adopt cigarette smoking was -.11, however. It appears that these PSA's have no positive impact in increasing inhibitions against smoking or riding without seat belts, probably due to the extensive amount of interpersonal influence on these behaviors from parents, teachers, and peers.

One particularly pervasive public service campaign has sought to restrain littering behavior. The negative consequences of this type of action are qualitatively different from the previous examples, since the harmful outcomes are aesthetic or social rather than physical. PSA's typically portray littering responses followed by portrayals of a polluted environment, social disapproval to the model, or a saddened Indian. In the survey, exposure to this type of message was associated +.05 with frequency of proper disposal of litter, with demographic factors controlled.

An experimental test examined the impact of the crying Indian spot on actual littering behavior under controlled conditions. Half of the sample of 500 subjects in the previously discussed experiment viewed this anti-littering message during an entertainment program, while the other half were exposed to an unrelated message. After the viewing session, all

subjects were offered a piece of wrapped candy and their disposal of the wrapper was unobtrusively observed by the experimental assistants. The children who viewed the littering announcement were significantly less likely to litter the experimental room than the non-exposed Ss. Among viewers, 25% put the wrapper in the waste basket and 2% threw it on the floor; 19% of the non-exposed Ss disposed of the wrapper in the basket and 11% littered the floor. The others kept it on themselves or left it on the table. The younger children were clearly most influenced. While the experiment demonstrates at least a temporary inhibitory effect, the survey findings show that the influence is not strong in the naturalistic setting.

RESPONSE FACILITATION EFFECTS

The response facilitation function is highly relevant to modeling of advertising stimuli. Most product consumption in commercials is acceptable, everyday behavior encumbered by minimal restrictions. The same holds for certain socially desirable practices promoted in public service announcements. For instance, children have established habitual patterns of behavior regarding cereal eating, toy playing, and in most instances, litter disposal and seat belt buckling. They have typically experienced direct positive reinforcement for such actions, but performance may not be salient at any given moment. In such cases, advertising might serve as a discriminative cue instigating previously learned behaviors; the ads temporarily remind the child to perform the particular activity. These eliciting cues typically contain a positive rather than negative motivational component. In particular, commercial messages seldom depict the unfavorable consequences of not using the product (except in preliminary scenes before

the product is consumed, as in medicine and hygiene ads); the primary modeling sequence is the demonstrated use of the product followed by rewarding outcomes.

An important aspect of this process concerns stimulus and response generalization from a given message. Does advertising motivate consumption of any brand within a product class, or is the effect restricted to the specific brand presented in the commercial? For instance, an ad for one exotically flavored pre-sweetened cereal may trigger eating of similar sugary cereal brands, or the generalization gradient may further carry over to non-sweetened cereals. This generalization process might be expected with children for two basic reasons: the brand-unique cues in a given ad might be perceived as peripheral to the more central modeled sequence of preparing and eating a bowl of cereal (or playing a board game or using a hair shampoo), and the overall message environment of numerous competing cereal brands (or game brands or shampoo brands) may produce a cumulative impression of "eating cereal" (or "playing games" or "using shampoo") rather than learning substantive and symbolic distinctions between brands X, Y, and Z. From a visual modeling perspective, the basic theme is consumption behavior; there are often no unique features of specific brands that models can act out (except listening to snap/crackle/pop). Of course, some models may be more influential exemplars, and there may be non-modeling aspects such as nutritional value, taste qualities, and attractive brand symbols. These other factors should create a tendency for children to more frequently consume heavily advertised brands--but a substantial generalization to consumption of less advertised brands should also be expected.

This notion was tested in a survey investigation of cereal advertising and consumption, where 506 children in the fourth through seventh grades reported on their exposure to cereal ads (indexed by the product of five specific and general attention items times amount of Saturday television viewing) and their patterns of cereal eating. A consumption index for eight heavily advertised cereal brands correlated +.41 with the exposure index; when grade, sex, status and school performance were controlled, the partial correlation remained strong at +.37. As anticipated, the association between exposure and consumption of five lightly advertised brands was positive but less strong, with a raw correlation of +.27 and a fourth-order partial of +.24.

Since response facilitation might be counteracted by parental influences restricting the amount of cereal eating, the questionnaire also measured whether parents imposed general snacking rule limitations or allowed children to eat whatever foods they pleased. The conditional correlations showed a substantial interaction: in homes with no rules, the correlation between exposure and overall cereal consumption was +.51, while the correlation was only +.27 for children reporting parental restrictions.

While it is possible for children to model cereal eating with the cereals available in the home, imitation is to some extent contingent on the intervening variable of persuading parents to purchase cereals in the supermarket. The motivation to imitate may indirectly produce request behavior as a means to physically acquiring the product (advertising codes discourage modeling stimuli of the product acquisition behavioral sequence of asking parents to buy, which would be a much more effective response facilitation strategy). The survey showed that exposure to cereal advertising

was correlated +.32 with frequency of requesting cereal purchases, with a partial correlation of +.27. Of course, it should be recognized each of the relationships reported in this section may be due to reverse causation, as children who often request or eat cereals are motivated to watch TV commercials for cereals. Since a major portion of the exposure variable involves mere amount of time viewing Saturday morning programming, it seems unlikely that a large part of the association could be explained by selective seeking rather than message effects.

Analysis of path coefficients among exposure, requests, consumption and demographic variables indicated that the impact of cereal advertising on advertised brand eating occurs both directly and indirectly via requests. The linkage from exposure to requests was +.27, and from requests to consumption was +.26; the direct path coefficient from exposure to consumption was +.30.

This set of findings suggests that cereal advertising has a direct response facilitation effect on consumption of advertised cereals, and that this impact is somewhat generalized to less frequently advertised cereals as well. Apparently the repeated presentation of models eating cereal serves to remind the child to perform habitual cereal eating behaviors. Furthermore, there are indications of an indirect stimulation of purchase requests as a means to obtaining the product for consumption.

In the case of public service announcements, modeling effects have been primarily interpreted as observational learning and inhibitory processes. For frequently expressed sanctioned behaviors such as seat belt buckling and proper disposal of trash, an alternative approach emphasizing positive reinforcement can be utilized. Many learning theorists believe

that reward is more effective than punishment in shaping behavior. The positive facilitation strategy would be to portray the recommended practices paired with rewarding consequences, such as safe arrival, good health, social approval, self-satisfaction, or a clean environment. Since few PSA's use this approach, the data from this investigation do not provide a good test for these ideas; however, the research of Leibert, Sprafkin and Poulos (1975) suggests that it can be effective.

STIMULUS OBJECT ENHANCEMENT EFFECTS

Bandura suggests that stimulus enhancement processes direct the observers attention to objects utilized by the model and produce greater use of the objects beyond demonstrated circumstances. This notion can be applied to evidence on medicine advertising effects gathered in a survey of 256 fifth, sixth and seventh grade students. The analyses showed that exposure to advertisements of headache remedies was slightly associated with the child's self-prescription of the number of aspirin that they should take to relieve a cold; the partial correlation was +.06, with 16% more of the heavy medicine ad viewers than light ad viewers suggesting a dosage of two or more aspirin. On the other hand, there was no difference according to exposure on an item asking the children if it's acceptable to take aspirin if they're not really sick. This evidence provides very limited indications that an enhancement of advertised objects can occur for a significant behavior such as medicine taking.

DISCUSSION

Since Bandura's vicarious social learning theory accords a central role to mediated stimuli in shaping an individual's responses, his model has attracted the attention of many researchers studying the effects of television on children. Most have applied the theory to research problems involving responses to anti-social and pro-social behavior displayed on TV; the present report extends the application to learning from television advertising. The research presented here shows that social learning perspective is a promising approach to the analysis of advertising influences on young persons.

The content analysis indicates that strategies employed in Saturday morning advertising are highly consistent with the basic tenets of social learning theory. The ads are likely to attract attention and maintain retention, due to frequent and prominent presentation, brand name repetition, musical jingles, humorous tone, special effects production techniques, and authoritative and homophilous models. The explicit depiction of product consumption facilitates learning of new sequences of actions involved in eating or playing with objects promoted in the ads. Furthermore, the extensive portrayal of positive reinforcement consequences directly associated with consumption should serve to strongly motivate children to obtain and consume products.

Evidence from a series of experimental and survey investigations demonstrates the effectiveness of advertising messages in the acquisition and performance of consumer and social behavior. The first set of data show that commercials are attended closely by children, even though many advertised products have limited relevance to young people.

The actual impact of advertising appears to be most centrally govered by two major modeling functions, observational learning and response facilitation. First,

commercials depicting relatively novel forms of behavior produce significant cognitive and behavioral effects through simple modeling of the observed demonstrations. Children have a limited opportunity for direct observation and experience with hygiene products; thus ads for deodorants, mouthwashes and acne creams importantly shape their perceptions, concerns, and usage patterns regarding these unfamiliar matters. Similarly, children learn distinctive new modes of anti-pollution gesturing and develop orientations toward new toys. It appears that repeated exposure to advertising messages augments this observational learning process.

Where children have established habitual patterns of sanctioned food eating, toy playing, and pro-social practices, advertising cues serve as reminders eliciting these actions. Some limited evidence suggests that this response facilitation effect generalizes beyond the specific objects promoted in the ads; for instance, modeling stimuli of cereal eating apparently stimulate greater consumption of all types of breakfast cereals, not just the featured brands. Moreover, commercials seem to indirectly produce higher rates of requests for cereals as a means to consumption behavior. Additional research is needed to ascertain the precise dimensions of the response facilitation effect of TV commercials, since this is the most common and least understood of the social learning functions.

Certain TV commercials and public service announcements can also modify inhibitions that normally restrain expression of non-sanctioned activities. For mildly proscribed forms of behavior such as excessive candy eating or playing with opposite sex-typed toys, there is evidence that advertising lowers inhibitions. In this report, general consumption of candy is substantially greater for children heavily exposed to candy commercials; the uniformity of the relationship across advertised and non-advertised candies indicates that the disinhibition explanation is more valid than a persuasion theory prediction of increased affect

toward advertised brands only. Additional findings from a previously reported study in this series (Atkin, 1975) indicates that a counter-stereotypical portrayal of females playing with male-oriented toy racing cars increases children's ratings of the acceptability of this behavior.

The corresponding effect of increasing inhibitions has very limited applicability to advertising messages, which generally emphasize only positive reinforcement. There are cases of public service announcements that depict punishing consequences of smoking, littering, and automobile riding without seat belts. The cumulative impact of such campaigns seems to be quite weak in this investigation; perhaps this is due to the more compelling influence of interpersonal sources.

It should be noted that social learning theory is not the sole paradigm that can be employed to understand how commercials affect children, although it appears to be the most useful approach. For many of the products and practices promoted on television, verbal persuasion theory offers a more appropriate perspective than does modeling. This is particularly the case of non-demonstration message strategies such as emotional vs. rational appeal and one-sided vs. two-sided presentation. In addition, cognitive developmental theories can profitably be considered as a complement to social learning theory in many contexts, particularly when stage-related evaluation and comprehension of the advertising is likely to modify acquisition and performance of modeling stimuli. The "uses and gratifications" perspective can also add explanatory power where children attend and process commercial messages with certain needs and motivations in mind. Subsequent research should attempt to combine these theoretical approaches for more advanced explanation of children's responses to televised advertising.

Note: This research is supported by Grant OCD-CB-346 from the Office of Child Development, Department of Health, Education and Welfare.

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